

Remarks

In view of the above amendments and the following remarks, reconsideration of the rejections and further examination are requested.

Initially, the Applicants would like to thank the Examiner for conducting the interview on February 1, 2007.

Claims 1, 2, 4-8, 10 and 11 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Osada (US 6,477,127) in view of Hurtado (US 2003/0105718) and Benaloh (US 6,886,098). Claims 3, 9 and 12 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Osada in view of Hurtado and Benaloh and further in view of Quinnett (US 6,615,160). Claim 13 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Osada in view of Hurtado and Benaloh and further in view of Shear (US 2001/0042043).

Claims 1-13 have been canceled without prejudice or disclaimer to the subject matter contained therein. Further, claims 14-17 have been added.

It is submitted that new claims 14-17 are patentable over the references relied upon in the above-mentioned rejections for the following reasons.

Claim 14 is patentable over the combination of Osada, Hurtado and Benaloh, since claim 14 recites an optical disk including:

a first directory including message video data, the message video data including a warning message which is displayed by a consumer reproduction apparatus when the message video data is reproduced by the consumer reproduction apparatus; and

a second directory including the digital content, the digital content having been recorded in an encrypted form which can be decrypted by an industrial reproduction apparatus and cannot be decrypted by the consumer reproduction apparatus,

wherein the first directory has a name that is the same as a name of a directory of a conventional optical disk to be reproduced by the consumer reproduction apparatus, and the second directory has a name that is different from the name of the first directory, and

wherein the name of the first directory is VIDEO_TS.

Conventionally, when producing an optical disk for industrial use, only the second directory is included on the optical disk and the digital content is written to the second directory. In this case, to prevent the digital content from being reproduced by a consumer reproduction

apparatus, the digital content is encrypted using a key unique to an industrial reproduction apparatus prior to being written to the second directory. Thus, according to the conventional technique, the digital content cannot be decrypted by a consumer reproduction apparatus.

The conventional technique for preventing unauthorized reproduction by the consumer reproduction apparatus can, however, lead to a problem. For example, in a situation where both an industrial reproduction apparatus and one or more consumer reproduction apparatuses are present, an optical disk for industrial use could be mistaken for an optical disk for consumer use and loaded into a consumer reproduction apparatus. If this occurs, the digital content on the optical disk will not be played back by the consumer reproduction apparatus because the consumer reproduction apparatus will not be able to decrypt the digital content. However, the user will have no way of knowing that the optical disk is for industrial use, and therefore, cannot be played on his/her consumer reproduction apparatus. As a result, the user may incorrectly conclude that the optical disk or the consumer reproduction apparatus is faulty.

Therefore, the present invention, as recited in claim 14, avoids such an incorrect conclusion by having both the second directory for industrial use and a first directory, VIDEO_TS, which is accessible by the consumer reproduction apparatus, on the optical disk. Further, the first directory contains message video data including a warning message that is reproducible by the consumer reproduction apparatus. Therefore, in the present invention, if the optical disk is mistakenly loaded into the consumer reproduction apparatus, the warning message will be reproduced. As a result, the user will not incorrectly conclude that the optical disk or the consumer reproduction apparatus is faulty by watching the warning message.

It is submitted that the combination of Osada, Hurtado and Benaloh fails to disclose or suggest the optical disk recited in claim 14.

Osada discloses an apparatus for recording information (user data A) to an optical disk 1 and, at a later time, additionally recording new information (user data B) to an area of the optical disk 1 that is subsequent to an area where the information (user data A) is recorded. In order to perform the additional recording, the apparatus locates a recording termination point E at the end of the information (user data A), places a linking start point in an appropriate CPM area on the optical disk 1, and then records the new information (user data B). As a result, the start of the new data (user data B) can be determined by detecting the linking start point. (See column 6, lines 15-44 and Figures 5 and 6).

Based on the above discussion, it is apparent that Osada discloses a technique of placing a linking point in a CPM area on an optical disk. In other words, Osada, at the time of recording, writes user data in an area subsequent to the CPM area in which the linking point is placed. At the time of playback, the user data is read from the area subsequent to the CPM area, and treated as playback data. While Osada is similar to the present invention, as recited in claim 14, in that user data, such as content, is written to a predetermined area of the optical disk 1, the main feature of Osada is to use the CPM area as a linking point between data stored on the optical disk 1 during two different writing operations. Osada does not disclose or suggest that the optical disk 1 includes a first directory, VIDEO_TS, containing message video data including a warning message which is displayed by a consumer reproduction apparatus when the message video data is reproduced by the consumer reproduction apparatus, and a second directory, which has a name other than VIDEO_TS, containing digital content that is in an encrypted form that can be decrypted by an industrial reproduction apparatus and cannot be decrypted by the consumer reproduction apparatus. As a result, Hurtado and/or Benaloh must disclose or suggest these features in order for the combination of Osada, Hurtado and Benaloh to render claim 1 obvious.

Regarding Hurtado, it discloses a secure digital content electronic distribution system adapted to provide licensing authorization and control so that digital content 113 can only be unlocked by one or more authorized end-users. The control of the usage of the digital content 113 is enabled through an end-user player application 195 running on an end-user device 109. A digital code is embedded in every copy of the digital content 113 that defines an allowable number of secondary copies and playbacks, i.e., usage conditions 517. Digital watermarking technology is used to generate the digital code, so as to keep the digital code hidden from other end-user player applications 195 and to make the digital code difficult to alter. When the digital content 113 is accessed in a compliant end-user device 109, the end-user player application 195 reads the watermark to check the user restrictions and updates the watermark as required.

The content 113 and the usage conditions 517 are transmitted to the one or more end-user devices 109 along with symmetric keys 623 for decrypting the content 113 and the usage conditions 517 in a secure container (SC) by a clearinghouse 105. The secure container is encrypted and once the end-user device 109 receives the secure container, it is decrypted by the end-user device 109 with an encryption key previously in the possession of the end-user device

109. The end-user device can then decrypt the content 113 and the usage conditions 517 using one of the symmetric keys 623.

The enforcement of the usage conditions 517 is performed by a content usage control layer 505 in the end-user device 109. After decryption of the content 113 and the usage conditions 517, the end-user device 109 marks the content 113 with a copy/play code 523 representing the usage conditions 517. Next, the player application 195 cryptographically scrambles the content 113 before storing it in the end-user device 109. The end-user player application 195 generates a scrambling key for each content item, and the key is encrypted and hidden in the end-user device 109. Then, every time the end-user device 109 accesses the content 113 for copy onto a recording medium or play, the end-user device 109 verifies the copy/play code 523 before allowing the content 113 to be descrambled and copied onto the recording medium or played. The end-user device 109 also updates the copy/play code in the original copy of the content 113 and on any new secondary copy. (See page 6, paragraphs [0158] and [0159]; page 14, paragraphs [0246] – [0248]; and page 17, paragraphs [0304] – [0310]).

Based on the above discussion, it is apparent that Hurtado discloses a technique of securely decrypting part of the previously encrypted content. Specifically, an end user system receives a secure container from a clearing house, and decrypts the secure container using an encrypting key provided to the end user system, thereby extracting a decrypting key from the container. The end user system then decrypts at least a part of the previously encrypt content. Hurtado is similar to the present invention, as recited in claim 14, in that content is protected by means of encryption. However, there is no disclosure or suggestion in Hurtado of the recording medium having the first and second directories as recited in claim 14. As a result, Benaloh must disclose or suggest these features in order for the combination of Osada, Hurtado and Benaloh to render claim 14 obvious.

Benaloh discloses a system including a number of different content players and a content provider. The content provider distributes encryption keys to the content players, and discloses a technique of assigning the encryption keys to each of the content players and controlling each content player to selectively use the encryption keys. (See column 6, line 42 – column 7, line 31).

In light of the above discussion, it is apparent that the system of Benaloh does disclose the use of encryption keys that are unique to specific content players. Therefore, this disclosure can be regarded as an encryption method for industrial use, and, in this sense, is similar to the present invention. However, the main feature of Benaloh is the idea of key assignment and management in which a set of encryption keys is assigned to each player. As a result, it is apparent that Benaloh also does not disclose or suggest the recording medium having the first and second directories as recited in claim 14.

In consideration of the above discussion, Osada, Hurtado and Benaloh do not, either alone or in combination, disclose or suggest a recording medium having the first and second directories as recited in claim 14. Therefore, one of ordinary skill in the art would not have been motivated to modify or combine the references so as to obtain the invention as recited in claim 14.

It is noted that Quinnett and Shear are relied upon in the Office Action as disclosing the display of a message on a screen in different languages by an apparatus for testing and diagnosing faults in an engine, and a technique whereby an optical disk is afforded copy protection in different platforms (e.g., movie theater projectors or DVD players) having different security capabilities, respectively.

Regarding Quinnett, it discloses a technique for testing and diagnosing faults in an engine including an electronic control unit. A diagnostic computer is coupled to the electronic control unit, and displays engine testing and diagnostic text messages. Since the display includes a number of different language options, it can be used in a number of different countries.

Quinnett is similar to the present invention in that it provides information to the user via a display. However, the main feature of Quinnett is to display engine testing and diagnostic messages. Quinnett does not disclose or suggest a recording medium having the first and second directories as recited in claim 14. As a result, Quinnett also fails to disclose or suggest these features of claim 14.

Regarding Shear, it discloses a technique whereby an optical disk can be protected in a platform having low security capabilities, as well as more strongly protected in a platform having higher security capabilities. A control object defines a plurality of rights management rules (for example, price for performance or redistribution rules). When the optical disk is loaded into the low capability platform, the control object enables only a subset of the control rules, such as

copy controls or marking of played material. On the other hand, when the optical disk is loaded into the high capability platform, the control object enables all of the rules.

Shear is similar to the present invention in that different levels of content protection are provided. However, the main feature of Shear is to set different levels of content protection for different platforms. Shear does not disclose or suggest a recording medium having the first and second directories as recited in claim 14. As a result, Shear also fails to disclose or suggest these features of claim 14.

As for claims 15-17, they are patentable over the references relied upon in the rejections for reasons similar to those set forth above in support of claim 14. That is, claims 15-17 recite features similar to those discussed above with regard to claim 14, which are not disclosed or suggested by the references.

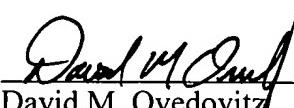
Because of the above-mentioned distinctions, it is believed clear that claims 14-17 are patentable over the references relied upon in the rejections. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 14-17. Therefore, it is submitted that claims 14-17 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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